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(54) **WEARABLE ELECTRONIC DEVICE HAVING A LIGHT FIELD CAMERA USABLE TO PERFORM BIOAUTHENTICATION FROM A DORSAL SIDE OF A FOREARM NEAR A WRIST**

(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(72) Inventors: **Dale Setlak**, Merritt Island, FL (US); **Giovanni Gozzini**, Berkeley, CA (US); **Manohar B. Srikanth**, Mountain View, CA (US); **Mohammad Yeke Yazdandoost**, San Jose, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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(58) **Field of Classification Search**
CPC combination set(s) only.
See application file for complete search history.

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Primary Examiner — Omar S Ismail
(74) *Attorney, Agent, or Firm* — Brownstein Hyatt Farber Schreck, LLP

(57) **ABSTRACT**

A method of authenticating a user of a wearable electronic device includes emitting light into a dorsal side of a forearm near a wrist of the user; receiving, using a light field camera, remissions of the light from the dorsal side of the forearm near the wrist of the user; generating a light field image from the remissions of the light; performing a synthetic focusing operation on the light field image to construct at least one image of at least one layer of the forearm near the wrist; extracting a set of features from the at least one image; determining whether the set of features matches a reference set of features; and authenticating the user based on the matching. In some embodiments, the method may further include compensating for a tilt of the light field camera prior to or while performing the synthetic focusing operation.

23 Claims, 16 Drawing Sheets